

## PATENT ABSTRACTS OF JAPAN

(11) Publication number : 10-051224  
 (43) Date of publication of application : 20.02.1998

(51) Int. Cl. H01Q 5/01  
 H01Q 1/24  
 H01Q 9/30

(21) Application number : 08-214968 (71) Applicant : MATSUSHITA ELECTRIC IND CO LTD  
 (22) Date of filing : 29.07.1996 (72) Inventor : EGAWA KIYOSHI  
 ITO HIDEO

## (54) ANTENNA SYSTEM

## (57) Abstract:

**PROBLEM TO BE SOLVED:** To provide an antenna system that is resonated for a plurality of frequency bands and used in common to a plurality of systems.

**SOLUTION:** The antenna system is resonance with a plurality of frequencies or provided with a linear feeding element 1 having length is L1 and a linear loop-back element 2 placed close to the feeding element 1 whose one end is short circuited to the feeding element 1 and whose length is L2, the difference (L1-L2) of the length between the feeding element 1 and the loop-back element 2 is set to be in resonance with higher frequencies and the length L1 of the feeding element 1 is set, in resonance with lower frequencies in cooperation with the loop-back element 2. Multi-resonance at a plurality of frequencies is attained, and the antenna is used in common for radio equipments in a plurality of systems.

